

University of Vermont

ScholarWorks @ UVM

UVM Honors College Senior Theses

Undergraduate Theses

2020

The Guinea Pig Club: Social Support and Developments in Medical Practice

Camille J. Walton
UVM

Follow this and additional works at: <https://scholarworks.uvm.edu/hcoltheses>

Recommended Citation

Walton, Camille J., "The Guinea Pig Club: Social Support and Developments in Medical Practice" (2020).
UVM Honors College Senior Theses. 370.
<https://scholarworks.uvm.edu/hcoltheses/370>

This Honors College Thesis is brought to you for free and open access by the Undergraduate Theses at ScholarWorks @ UVM. It has been accepted for inclusion in UVM Honors College Senior Theses by an authorized administrator of ScholarWorks @ UVM. For more information, please contact donna.omalley@uvm.edu.

The Guinea Pig Club: Social Support and Developments in Medical Practice

Camille Walton

Advised by Steven Zdatny, Ph.D.

Honors Thesis in History

University of Vermont

Spring, 2020

Introduction

The Guinea Pig Club was a self-named group of burned Allied airmen in World War II who underwent serial operations to regain their appearance and identity at Queen Victoria Hospital in East Grinstead, Sussex, England. There they were treated on Ward Three, also known as the Sty, by Dr.¹ Archibald McIndoe, a pioneering plastic surgeon from New Zealand, who both advanced accepted methods and developed novel techniques of his own to address their wounds and rebuild their lives. The support networks McIndoe's patients established during the war persisted for decades and transformed tragedy into resilience and grief into camaraderie.

One such network was the Guinea Pig Club. One Sunday morning in July 1941, a group of hungover young men convalescing at Queen Victoria hospital decided to form a “grogging club” which was to become renowned for its support and community. Fighter pilot Geoffrey Page writes in his memoir, *Shot Down in Flames*:

It was during these early days in the hospital that a small group of us started a club that is now world famous. With the original idea of forming it as a drinking club, it was soon to change its nature, although the basic premise has always been to the fore...At our second meeting I proposed that we should extend our activities beyond those of pouring large quantities of liquid down our throats. My suggestion was that those of us who

¹ In British English, surgeons are given the title “Mister” and physicians are referred to as “Doctor”. This paper will distinguish between surgeons and physicians, but the designation of doctor will be given to both surgeons and physicians in the American English tradition.

could return to a useful normal life should insure that our less fortunate members should be looked after by us financially.²

The club had an annual membership fee of 2s/6d and, depending on which account one consults, the criteria for membership ranged from two to ten operations at East Grinstead.³ By the end of WWII 649 Guinea Pigs had been treated by the medical team at Queen Victoria Hospital.

Other plastic surgeons besides McIndoe also worked and trained here. McIndoe baptized at least sixty into plastic surgery himself.⁴ Many patients spent years in residence at Queen Victoria Hospital while others alternated leave with serial operations. Ultimately, the work of McIndoe and his team must be considered a significant medical triumph. Certainly, Dr. McIndoe made strides in burn treatment and facial reconstruction. But it was the broader healing environment he fostered, in conjunction with other caregivers at Queen Victoria Hospital and the entire Guinea Pig community, that were essential in allowing his patients to regain their identities and lead fulfilling lives after the war. McIndoe's surgical dexterity allowed him to be successful as a medical practitioner, but his holistic approach to treatment most notably placed him at the heart of the Guinea Pig Club. The Club has now outlived its guiding spirit by almost sixty years, yet it remains, perhaps to a greater degree than his medical accomplishments, McIndoe's most enduring legacy.

² Geoffrey Page, *Shot Down in Flames: A World War II Fighter Pilot's Remarkable Tale of Survival* (London: Grub Street, 1999), 112.

³ Henry Standen, "The Guinea Pig Club," *Guinea Pig*, (August 1948): 10-1, esp. 10; M.C. Meikle, "The Evolution of Plastic and Maxillofacial Surgery in the Twentieth Century: The Dunedin Connection," *Surgeon* 4, no. 5 (2006): 325-334, esp 332.

⁴ Emily R. Mayhew, *The Guinea Pig Club: Archibald McIndoe and the RAF in World War II* (Toronto: Dundurn, 2018), 72.

I. Medical Context and Developments

“He who wishes to be a surgeon should go to war”

- Hippocrates

Archibald McIndoe began training in 1931 as a plastic surgeon when he was recruited by his distant cousin, Sir Harold Gillies, as Chief Assistant in the Department of Plastic Surgery at St Bartholomew’s Hospital in London.⁵ In 1938 McIndoe was appointed Consultant Plastic Surgeon to the Royal Air Force. He was a civilian in this role. When it became apparent that war was imminent in 1939 the R.A.F. assigned Dr. McIndoe to be head of the Plastic and Jaw Surgery Unit, known as Ward Three, at Queen Victoria Hospital.⁶ There, he was able to make scientific strides in the larger context of World War II. Advances during this conflict were by no means limited to the Guinea Pigs, but the storyline of how changes in their treatment came about has been understudied to date.

The advances in burn treatment methods during WWII were made possible in part by the increased volume of burn patients who survived their initial trauma that surpassed what had been seen in the First World War. Dr. Gillies, McIndoe’s mentor and a famed plastic surgeon of WWI writes, “There was a time when these poor [burned] patients were shoved into a dark and smelly corner in the worst ward in the hospital and left to die or scar in their own serum and sepsis,” which is indicative of the lack of priority placed on burn patients and also the dearth of effective techniques available to treat them.⁷ Gillies developed the use of the tubed pedicle in the First World War. This type of skin graft is more resilient than the traditional, and somewhat more

⁵ “The Arrival of McIndoe,” East Grinstead Museum, accessed January 21, 2020.

⁶ “The Arrival of McIndoe.”

⁷ Gillies and Millard, *Principles and Art*, 444.

intuitive, flap. For tubing, an area of skin is cut from the underlying tissue and left attached along one edge. The sides perpendicular to that edge are sewn together, forming a tube, and the unsealed end is then sewn onto the area needing coverage. Over the course of a few weeks a successful graft replaces lost tissues and can be severed from both ends. The tubed bridge is discarded. Gillies extols the virtues of the tubed pedicle in his medical textbook:

The particular virtues of tubing are:

1. Circulatory. If a strap-like flap is merely lifted and replaced again in its bed, the divided collaterals will hustle to join up with their old friends. Yet by rolling the strap into a closed tube, the horizontal collaterals will atrophy, while the longitudinal ones correspondingly dilate. In 3 weeks or sooner, either end can be cut and will easily survive on this longitudinal, to-and-fro blood supply.
2. By giving the tube pedicle a mobile attachment for its journey, great masses of tissue can be carried to any part of the body without great hurry, scurry, or worry.
3. Less scar and less infection.
4. Such a flexible tube can be twisted and kinked with a degree of impunity which the flat flap would never tolerate.
5. Length of the stalk makes positioning less irksome; the closing of all areas saves dressings and bed time.⁸

This technique was a brilliant breakthrough and continues to be used in some reconstructive procedures today according to practicing plastic surgeon Ashley Kerekes.⁹ While flaps and

⁸ Gillies and Millard, *Principles and Art*, 444.

⁹ Ashley Kerekes, text message to author, February 10, 2020.

pedicles are integral to recovering a patient's appearance and the protection skin offers, the patient's body must overcome the initial shock of an injury.

In any era, before reconstruction can begin a patient must first survive and then be stabilized. During the interwar years doctors made advances in treating shock. When a severe trauma, such as the burns of Guinea Pigs, is inflicted, the patient loses vast quantities of fluid rapidly via the surface of the wound. Interstitial fluid and blood bearing immune mediators that combat environmental pathogens are released as a result of damaged vasculature. The body diverts resources away from the tissues and some organs, such as the kidneys, in order to protect the brain and heart, but this often is at the expense of renal failure and death from dehydration. Starting in WWI, blood serum was transfused as a powerful agent to counter the effects of shock.¹⁰ The implication of this is that trauma patients survived at higher rates, so the issue shifted from keeping them alive to treating their wounds in a way that facilitated, as much as possible, a normal or acceptable quality of life once physical healing was complete.

Often, it was not only skin that was melted in the hot flames of burning petroleum. Facial features such as noses, eyes, and ears were destroyed even if the flyer survived. In order to diminish the effect of the patients' deformities McIndoe also performed rhinoplasty and gave the patients glass eyes and sometimes wigs."¹¹ Rather than simply cover open wounds in a repair that served only to close a wound off from infection, McIndoe sought to restore his patients' features to the extent he was able.

¹⁰ G.L. Bunton, *Fluid Balance Without Tears, or The Child's Guide to Electrolytes* (London, UK: Lloyd Luke, 1970), 28.

¹¹Alexandra F. Macnamara and Neil H. Metcalfe, "Sir Archibald Hector McIndoe (1900–1960) and the Guinea Pig Club: The Development of Reconstructive Surgery and Rehabilitation in the Second World War (1939–1945)," *Medical Biography* 22, no. 4 (2013): 224-8, esp. 225.

The most common injuries McIndoe treated were severe burns to the face and hands in airmen who had been trapped in exploding craft, or who had parachuted only after the cockpit was engulfed in burning fuel.¹² Many also suffered extensive burning of the legs. “Hurricane Fire” was the colloquial term used for the inferno that resulted when the un-insulated fuel tanks in the wings of Hurricanes ignited. This often left swaths of the pilot’s lower extremities riddled with deep burns.¹³ McIndoe discusses the common features of this occurrence:

I have described the characteristics of the ‘airman’s burn,’ so common in aircrew. It is due to: (i) short-term exposure to a very high temperature such as occurs with the “blow torch” effect of blazing petrol at high speed. This is common in the air. (ii) Flame burns due to the play of flame directly on exposed skin. This can occur anywhere. (iii) Contact burns where hot material, usually portions of the plane, directly touches a trapped or unconscious person in a crashed machine. The distribution of the burn is markedly affected by protective clothing.¹⁴

It was common for burn victims to experience contracture of the areas of skin that regrew after being burned. This meant an uncomfortably tight sensation that could be crippling if it was on the back of the hands, which depend upon extra skin in order to close into a fist. There was debate between Dr. McIndoe and Dr. William Olgilvie in regards to what causes contracture of fingers and tissue in patients with extensive burns. McIndoe contested that it was a result of tannic acid treatment, whereas Olgilvie insisted on the conventional view that the instantaneous

¹² Ibid.

¹³ Mayhew, *Guinea Pig Club*, 50.

¹⁴ A. H. McIndoe, “Total Reconstruction of the Burned Face. The Bradshaw Lecture 1958,” *Br J of Plastic Surgery* 36, no. 4 (1983): 410–20, esp. 412.

heat of a flash burn, such as the blast of heat that erupts when a tank of fuel combusts, causes the healed tissues to tighten and stiffen.¹⁵ Ultimately, McIndoe was successful in defending his opinion against the traditional method of treating burns.

Until 1941, it was standard practice to apply tannic acid to burns. This substance was originally used to tan hides in leather works, but it was adapted to medicine because of its apparent ability to seal a wound from environmental pathogens while fresh skin regenerates underneath.¹⁶ This treatment was developed during the inter-war years, when extensive and large burns were infrequent. The acid was sufficient for small patches of skin, but McIndoe took issue with its application to large areas, such as entire thighs, as well as regions needing delicate treatment, such as the fingers and face.¹⁷ Dr. Gillies offered his opinion on this treatment in his medical textbook:

The healing that took place beneath the [tannic acid] scabs was deceptive, for although the skin was tense and shiny, at first glance contraction was not always obvious. The back of the hand, for instance, seemed well healed in many cases yet the patient could not close his hand into a fist because of the actual loss of dorsal skin...

Finally, by the simple test of pinching up a bit of the loose skin on the back of the hand of the service consultants and letting them try to close their own hands, headquarters was convinced of the necessity of early grafting, and a brochure sent out.¹⁸

¹⁵ Mayhew, *Guinea Pig Club*, 65.

¹⁶ Mayhew, *Guinea Pig Club*, 58.

¹⁷ A. H. McIndoe, "Skin Grafting and the Treatment of Wounds," *Proceedings of the Royal Society of Medicine* 36, no. 647 (June 1943): 29-38, esp. 30.

¹⁸ Gillies and Millard, *The Principles and Art*, 455.

After Gillies and McIndoe jointly presented their finding to the Royal Society in November, 1940 — after the Battle of Britain poured casualties into their units — the standard of care shifted away from tannic acid.

This change in standard of care was not perfectly instantaneous. Spitfire pilot Richard Hillary had been treated with acid before he was placed under McIndoe's care in 1941. He recalls the treatment in his memoir, *The Last Enemy*, "My face and hands had been scrubbed and then sprayed with tannic acid. The acid had formed into a hard black cement. My eyes alone had received different treatment: they were coated with a thick layer of gentian violet. My arms were propped up in front of me, the fingers extended like witches' claws, and my body was hung loosely on straps just clear of the bed."¹⁹ Another flyer whose account of his wartime experience includes being treated with tannic acid is Geoffrey Page. He writes in his memoir: "Then for the first time I noticed the hands themselves. From the wrist joints to the finger tips they were blacker than any negro's hand, but smaller in size than I had ever remembered them to be. I shared the V.A.D.'s expression of horror until [nurse] Skipper intervened. 'That black stuff's only tannic acid. It's not the color of your skin.'"²⁰ These injuries occurred early in the war, and both patients were healing at the dawn of a new treatment for burns: the saline bath.

After the outset of the war, surgeons noticed that burned servicemen brought in from the sea healed more quickly than those burned on land. Doctors began to realize that salt water keeps wounds clean and also prepares the physiology to receive grafts both more quickly and more successfully. When McIndoe learned of this finding, he arranged a primitive saline bath at

¹⁹ Richard Hillary, *The Last Enemy* (New York, NY: St. Martin's Press, 1983), 115.

²⁰ Page, *Shot Down in Flames*, 104.

Queen Victoria Hospital into which patients could be lowered and the water temperature carefully maintained at just above that of the body.²¹ McIndoe's unit was subsequently the first to have a formal saline bath installed, and it was a success. The saltwater bath at Queen Victoria Hospital was one of only three in England at the time Richard Hillary wrote his memoir, which includes his time spent on the ward in 1941.²² Not only was this new method much more effective at healing burns, it was also significantly more comfortable than being doused with acid that formed a hardened crust on burned areas until the underlying skin either healed or, in many cases, became necrotic.²³

The bath also allowed a more comfortable way for patients to remove bandages. Soaking before pulling them off softened them considerably. Hillary writes in his memoir, “Shortly afterwards I was allowed to have a bath and soak the bandage off my arm from where the graft had been taken. This laborious and painful process had already taken me half an hour when Sister Hall came in. I was down to the last layer, which I was pulling at gingerly, hurting myself considerably in the process. ‘Well, really, Mister Hillary!’ She said; and taking hold of it she gave a quick pull and ripped the whole thing off cleanly and painlessly.”²⁴ This makes intuitive sense when one thinks of how much more often Band-Aids lie on the pavement at the swimming pool compared to sidewalks around town where people are not being immersed in water.

McIndoe's beliefs about the harmful effects of tannic acid are echoed by historian and journalist Leonard Mosley, who said “It was not so much what the Germans or even the flames

²¹ Hugh McLeave, *McIndoe: Plastic Surgeon* (London: The Trinity Press, 1961), esp. 73.

²² A.H. McIndoe, “The Maestro's Message — Valiant for Truth,” *Guinea Pig* (April 1951): 4-6, esp 4.

²³ McLeave, *McIndoe*, 52.

²⁴ Hillary, *The Last Enemy*, 152.

from their planes had done to them, but how they had been treated once they reached the ground.”²⁵ McIndoe described the context of the bath within his treatment:

These [saline and Eusol antiseptic dressings] were combined with daily saline baths in which free irrigation of the whole head and cleansing of all orifices and cavities was carried out. Appropriate antibiotics were used but the keynote of the treatment was strict cleanliness, early removal of all sloughs [scabs] as a preparation for grafting, and complete absence of trauma. An immediate assessment of the sensitivity of the various organisms present to all antibiotics was of great use and saved much misdirected therapy.²⁶

The above reference to antibiotics and their effects also reveals a major development in medicine in the ability to prevent and combat bacterial infection.

The appearance of antibiotics revolutionized wound care and infection management, and hence the treatment of burns. In a 1943 *Lancet* publication, Clark et al. compare the findings from a handful of different physicians and surgeons surrounding their treatment of infected burns with either penicillin or propamidine, a salt. In the concluding remarks, they write that “There can be little doubt that penicillin, as applied in the cases here reported, offers a much more effective means for the rapid removal of hemolytic streptococci and staphylococci from a superficial wound than sulfanilamide [a sulfur antibacterial compound]. It appears to be also more effective than propamidine (0.1%), but a decision on this point must await further trials

²⁵ Leonard Mosley, *Faces from the Fire: The Biography of Sir Archibald McIndoe* (London: Weidenfeld and Nicolson, 1962), 86-7.

²⁶ McIndoe, “Total Reconstruction,” 411.

with the latter drug applied in somewhat higher concentration.”²⁷ One of the surgeons listed in the article is McIndoe, alongside his Canadian colleague at Ward Three, Dr. Ross Tilley. In 1941, hemolytic streptococcus arrived at Queen Victoria Hospital. The infection meant that many grafts became infected and those patients were quarantined.²⁸ Richard Hillary remembers his brush with the bacteria after having a new upper lip grafted: “The next few days remain in my memory as a rather unpleasant dream. Rumor started that eight of us were to be isolated, owing to suspicion of a bug. It proved true...As we were pushed up the steps to our new quarters we were greeted by four nurses wearing masks, white aprons, and rubber gloves...On the third day in our new quarters the smell of the bandage under my nose became so powerful that I took to dosing it liberally with eau-de-cologne.”²⁹ He was treated with Protonsil, a sulfonamide, and the infection resolved. Despite being proven more effective than sulfonamides, penicillin was too expensive in 1941 to be afforded at Queen Victoria Hospital, and for many infections the cheaper drugs were sufficient if not optimal.³⁰

McIndoe later used his observations of the nature of warfare in WWII to predict the genre of wounds to be inflicted in the next major conflict in his 1958 Bradshaw Lecture to the Royal College of Surgeons:

During [WWII] burns came next in frequency and severity to orthopedic injuries. In the next war they will probably outnumber all others. In the RAF probably more than 22,000

²⁷ A.M. Clark, Leonard Colebrook, Thomas Gibson, M.L. Thomson, and A. Foster, “Penicillin And Propamidine In Burns Elimination Of Hæmolytic Streptococci And Staphylococci,” *Lancet* 241, no. 6246 (May 15, 1943): pp. 605-609, esp. 609.

²⁸ Mayhew, *Guinea Pig Club*, 72.

²⁹ Hillary, *The Last Enemy*, 159.

³⁰ Mayhew, *Guinea Pig Club*, 74.

men were incinerated with or without other injuries. However, 4500 burned aircrew were recovered from crashed planes or parachuted in flames to safety...The formidable number of 3600 sustained burns of the face and hands, these being the most commonly exposed areas. Practically all these men were treated in RAF Burns Units under centralized control.³¹

Also in his Bradshaw Lecture, McIndoe provided a lesson in the history of burn treatment stretching back to the 16th century and concluded with his entrance onto the medical scene. For the context immediately before his career began, he said: “Thus, by the turn of the [twentieth] century there existed the two fundamental architectural principles which form the basis of plastic surgery, namely: (i) the transplantation and manipulation of pedicled tissue; and (ii) free transplantation of tissue from one part of the body to another. A considerable period and two wars, however, had to pass before the next stage was reached in which the infinite technical variations of these two principles were elaborated in relation to the adequate repair of the eyelids, nose, cheeks, lips, neck, scalp, ears, forehead and eyebrows.”³² The process of burn treatment can necessitate both of these techniques in the event that a burn disrupts the structures of the body, especially those of the head such as the ears and nose. When these types of injuries occurred in WWI, medical practice often led to the solution of a painted porcelain mask to hide disfigurement.³³ This method is less ideal than surgical reconstruction in many ways, including utility and aesthetics.

³¹ McIndoe, “Total Reconstruction,” 411.

³² McIndoe, “Total Reconstruction,” 411.

³³ Suzannah Biernoff, *Portraits of Violence: War and the Aesthetics of Disfigurement* (Ann Arbor: University of Michigan Press, 2017), 107.

Flesh regrown from one's own body cannot, under normal circumstances, fall off during a football match in the same way that a jolt can knock a fragile prosthetic nose off its perch. The immune system can not reject autografts that come from the individual. This makes grafting from the self preferable to taking skin from cadavers, other people, or animals. The threat to survival for pedicles and free grafts is blood supply. If a graft does not have good vasculature, it will become necrotic and fail. When selecting one area to graft onto another, viability is a priority and aesthetics must be considered. Areas chosen for grafting were selected by McIndoe based on their size and the texture of the skin.³⁴ Hillary, on choosing his new upper lip, writes, "I had decided on the arm, and not the leg, in order to be spared the bother of shaving my new upper lip. We chose a piece of skin bounded on one side by a vaccination mark and on the other by the faint scar of what are now my upper [eye] lids."³⁵ In order to harvest the skin for grafting, a dermatome was used to collect tissue of uniform thickness to suit the area being patched.³⁶ This is a tool similar to a facial razor where the blades are set to a standard height and allowed only to incise to a specified depth. Harvesting skin with a dermatome is more suitable for large, flat areas such as cheeks. A contribution to *Guinea Pig* from Dr. C. R. McLaughlin posits that the dermatome was largely unknown prior to WWII but the nature of injuries in the conflict forced its wider use.³⁷ Some patients were less well-suited for free grafting due to a tendency to

³⁴ McIndoe, "Total Reconstruction," 416.

³⁵ Hillary, *The Last Enemy*, 157.

³⁶ McIndoe, "Total Reconstruction," 416.

³⁷ C. R. McLaughlin, "Present-Day Trends in Reconstructive Surgery," *Guinea Pig* (July 1947): 18-9, esp. 18.

form knotty, uncomfortable keloid scars. These candidates relied on pedicles that were waltzed from the abdomen to the wrist to the face.³⁸

Upon reaching hospital, McIndoe's patients had a long recovery. Dr. McIndoe was reluctant to treat burns with undue haste, as this does not allow for an understanding of how the body naturally heals itself. He writes,

However bad the burn, all raw surfaces should be healed in 2 to 3 months, after which the patient is sent out of hospital to be rehabilitated physically and mentally before embarking on the long process of definitive facial repair. It is of importance that his morale should be of the highest order when the time comes for this to begin, for in whatever light it is regarded the process can be demoralizing.

I can see little virtue in immediate excision and grafting of the burned areas in a facial burn. It is so difficult to tell viable from non-viable tissue. One cannot afford to throw away the former and if one errs on the conservative side the graft will fail. Any failed graft in a facial repair is a major disaster to the patient whose confidence and trust is maintained by a steady succession of successful operations.³⁹

This excerpt allows the reader to understand that McIndoe valued long-term aesthetic and psychological outcome over immediate gratification through apparent healing. Patients were often shocked by the results of procedures immediately after they took place, but steady progress over the course of several operations accumulated into a satisfactory end result. McIndoe estimated that most of his patients had between 10 and 20 operations and stayed at Queen

³⁸ McIndoe, "Total Reconstruction," 417.

³⁹ McIndoe, "Total Reconstruction," 413.

Victoria Hospital an average of 3 years.⁴⁰ For patients burned close to VE Day, this meant their time at the Sty extended well beyond the war's end.

Many Guinea Pigs who left Ward Three earlier in the war still required intermittent treatment in the following years. At reunion weekends, Dr. McIndoe reviewed his patients' cases and performed minor procedures as necessary.⁴¹ In the 1948 issue of *Guinea Pig*, the account of the weekend reads, "The Maestro made his individual medical examinations of his patients and expressed himself pleased with the progress of every one."⁴² After McIndoe's death, the Guinea Pig Club was still assigned a plastic surgeon to perform maintenance procedures as necessary.⁴³

II. Medical Personnel and Guinea Pigs at East Grinstead and Beyond

The information available today regarding the medical team and operations at East Grinstead is limited by the Access to Health Records Act of 1990 in the United Kingdom. The Act makes it impossible for individuals to access health records of a deceased person unless they are a personal representative of that individual or have a claim resulting from the death of that person.⁴⁴ The implication of this legislation on the project at hand is that records of the time Guinea Pigs spent at East Grinstead are protected. This also means that the medical staff involved in specific cases at Queen Victoria hospital are unidentifiable. It would be interesting to have access to these records in order to understand the personnel in the operating theatre and

⁴⁰ Ibid, 412.

⁴¹ Bob Marchant, interviewed by author, East Grinstead, November 18, 2019.

⁴² "McIndoe's Army Invades East Grinstead," *Guinea Pig* (Christmas 1948): 15-22, esp. 15.

⁴³ Sam Gallop, "Guinea Pig Gaudy," *Guinea Pig* (Summer 1960): 5-12, esp. 5.

⁴⁴ Access to Health Records Act 1990, Chapter 23, 5(1)(a).

on the ward, as well as procedures related to specific cases. The largest volume of information available pertains to Dr. McIndoe, who was the head of Ward Three.

Sir Archibald McIndoe was born in Dunedin, New Zealand in 1900. He trained in his home country at the University of Otago to become a surgeon and worked as a house surgeon at Waikito Hospital. In 1924 he accepted an internship in general surgery at the Mayo Clinic, and then moved to London to work with his distant cousin, Harold Gillies, in plastic surgery in winter 1930. In 1932 McIndoe passed the fellowship examination to join the Royal College of Surgeons, and in 1934 also earned a Fellowship of the American College of Surgeons.⁴⁵

McIndoe remained a civilian during WWII, despite running a Royal Air Force ward starting in 1939. Fighter pilot Geoffrey Page recalls his first encounter with McIndoe: “An hour later the matron re-entered, followed by a young man, who looked to be in his late thirties. Having introduced him as Mr. McIndoe, she departed. The man had dark hair parted in the middle and brushed flat to his head, horn-rimmed spectacles, broad shoulders and a friendly mischievous grin.”⁴⁶ The nimbleness of his fingers was not betrayed by their appearance: the President of the Royal College of Surgeons, Lord Moynihan, reportedly said to him, “You have hands like a plough-boy but they behave like an artist’s.”⁴⁷ He used these hands to rehabilitate the appearance of men ravaged by war, and he set his mind and pen to ensure their wellbeing in life beyond health. He was called “the Maestro” by the Guinea Pigs.⁴⁸ McIndoe was a presence on

⁴⁵ Neil Ashwood and Matthew Philpott, “The Life and Career of a Great Surgeon: Sir Archibald McIndoe CBE, MD, MSc, FRCS, FRCSI (Hon), FACS (Hon) 1900–1960,” *Trauma* 13, no. 3 (2010): 251-6, esp. 252-3.

⁴⁶ Page, *Shot Down in Flames*, 107.

⁴⁷ Ashwood and Philpott, “The Life and Career,” 252.

⁴⁸ “Salute to the Maestro,” *Guinea Pig* (1946): 2.

the ward, at social gatherings that took place both on and off the hospital grounds, and in the operating theatre.

While his work was in some ways novel and his dedication immense, there were others who also worked tirelessly at his side. McIndoe preferred to have the same team with him in surgery consistently, which meant that his usual anesthesiologist on Ward Three was Chief Anesthetist Dr. John Hunter and his Scrub Nurse was Jill Mullins.⁴⁹ This trio began to work together before the war broke out. Existing accounts give present-day readers the impression that Dr. McIndoe was the founder and sole contributor to medical operations carried out at East Grinstead. On the national level, Dr. McIndoe was one of only four plastic surgeons at the outbreak of WWII in Britain. The other three were Harold Gillies, Pomfret Kilner, and Rainsford Mowlem.⁵⁰ Each member of this tetrad was sent to a different strategically located military hospital so that casualties arriving from the continent could be placed quickly in appropriate facilities.⁵¹ At East Grinstead, McIndoe trained a generation of British plastic surgeons that were to become his successors. The last available estimate he gave was that there were sixty by the end of 1943. Additionally, the United States sent fifty trainees in 1944 in anticipation of D-Day to be trained by McIndoe.⁵² The surgeon also was no stranger to operating with an audience. He taught by allowing trainees to observe his surgeries during WWII.⁵³

One of McIndoe's notable students is the Dutch surgeon Dr. Carel Frederik Koch. Koch fled to Britain to escape the German invasion of his home country in 1940. He had been trained

⁴⁹ Marchant.

⁵⁰ McLeave, *McIndoe*, 69.

⁵¹ McLeave, *McIndoe*, 70.

⁵² Mayhew, *Guinea Pig Club*, 74.

⁵³ Marchant.

as a general surgeon, but somehow found East Grinstead and worked there with Dr. McIndoe.

After the war, in 1946, Koch was sent by the Netherlands back to East Grinstead with a team of his countrymen to learn from McIndoe. Koch helped to establish the Dutch Association of Plastic and Reconstructive Surgery and served as its president for twelve years, from 1950 until 1962.⁵⁴

After the war's end, McIndoe continued to care for Guinea Pigs in addition to working in his private practice on Harley Street. He also traveled widely in the years after the conflict — both for leisure and for professional engagements. Dr. McIndoe was knighted in 1947.⁵⁵ After the advent of the National Health Service (NHS) in 1948, the Maestro, as McIndoe was known, was able to use his reputation to his advantage in private practice.⁵⁶ It was partly over his decision to primarily work in the private sector that McIndoe and his longtime anesthetist, Dr. John Hunter, split. The pair had worked together since the early 1930s and had remained a duo at East Grinstead. When his Harley Street practice took off after the war, McIndoe treated fewer cases at the Queen Victoria Hospital, which had been taken over by the state. The hospital concluded treating Guinea Pigs consistently before 1948, as Dr. McIndoe writes, “The Sty is incorporated in the National Health Service and its work is now almost entirely civilian.”⁵⁷ Guinea Pigs did return occasionally for minor followup operations, but their time as live-in patients of Ward Three had ended. McIndoe's comment regarding the NHS is preserved in

⁵⁴ Barend Haeseker and Richard Koch, “Dr Carel Frierich Koch (1890-1984),” *Br J Plastic Surgery* 38 (1985): 589-590, esp. 589.

⁵⁵ McLeave, *McIndoe*, 139.

⁵⁶ Jessica Brain, “The Birth of the NHS,” Historic UK, accessed January 19, 2020; McLeave, 138.

⁵⁷ A.H. McIndoe, “The Tenth Year,” *Guinea Pig* (December 1948): 18-19, esp. 18.

McLeave: “State medicine, this’ll bring another cloud of desk-bound bureaucrats down around our ears.” This skepticism around the NHS also influenced the channels through which Sir Archibald pursued assistance for his patients. Rather than use state welfare, the Guinea Pig Club appealed to the donations-based R.A.F. Benevolent Fund for assistance in postwar life. It is unknown to what extent Guinea Pigs used the private charity in lieu of the NHS, but McIndoe worked to establish access to the Benevolent Fund for his patients.

Private practice and funding were not the only manifestations of Dr. McIndoe’s rejection of the system. He bought undeveloped land in Kenya, “below the snow-line of Kilimanjaro,” in 1949 and established a working farm on his thousand acres.⁵⁸ McIndoe was not alone in this endeavor, nor was this his first visit to Africa. In July, 1947 Sir Archibald visited a number of Guinea Pigs in South Africa and then made a foray into Rhodesia, now Zimbabwe, and Kenya. The final five weeks of this trip he spent with a Guinea Pig, Robin Johnston, at his home in Kenya.⁵⁹ This was the first in a series of annual visits to Johnston for safaris.⁶⁰ In the December, 1950 issue of *Guinea Pig*, Sir Archibald published an article about hunting and killing a bull elephant. In the concluding remarks, he urges readers: “We were cordially invited to come back [by Johnston to hunt] soon. And that is exactly what I am going to do in about four weeks from the time of writing this. If any Guinea Pig wants to get his knees brown and the kinks out of his back, I advise him to try an elephant hunt in Tanganyika [now Tanzania]. He will feel so well after it that his pension will probably be quickly reduced.”⁶¹ McIndoe took time away from his London practice and spent two months in Kenya each year until at least 1955.

⁵⁸ McLeave, *McIndoe*, 149.

⁵⁹ A. H. McIndoe, “The Guinea Pig and Empire,” *Guinea Pig* (December 1947): 3-4, esp. 3.

⁶⁰ McLeave, *McIndoe*, 145.

⁶¹ A. H. McIndoe, “East African Safari,” *Guinea Pig* (August 1950): 3-6, esp. 6.

Evidence after that date to confirm he continued to visit is not available.⁶² He also used his medical knowledge to treat natives, who sometimes came to his house when their indigenous healing practices were not working. His beneficence was not limited to healthcare for native Kenyans. McIndoe joined the Capricorn Society, “a non-racial group founded by Colonel David Stirling to fight for equality in East Africa and the Rhodesias among Europeans, Africans and Asians...But...eventually he lost interest in the Society—and in Africa.”⁶³ This comment is the only material to suggest McIndoe ceased to visit Africa, but it is unknown from where his biographer, Hugh McLeave, gathered this information. Africa was not the only continent McIndoe visited after VE Day.

McIndoe called on the Canadian Guinea Pigs in 1949. A number of his patients had been Canadians. In fact, they constituted the second-largest nationality of club members to British servicemen with nearly 200 patients — roughly half the number of British constituents. *Guinea Pig* reported on the welcome he received based on an article in the *Toronto Globe and Mail*. Magazine editor Henry Standen reports, “The hospitable welcome given the Maestro by the Canadians was done in the whole-hearted style that only the Canadians know. The get-together was a splendid pointer to the fact that the spirit of the Guinea Piggery is as strong and as far reaching in Canada as it is in the Mother Country and Australia.”⁶⁴ Invitations to appear and speak at events persisted even further beyond the war years.

⁶² Paul Hart, “With Paul Hart on Safari,” *Guinea Pig* (August 1955): 8-11, esp. 8.

⁶³ McLeave, *McIndoe*, 151-3.

⁶⁴ Henry Standen, “Canada’s Guinea Pigs Organise Welcome for The Maestro,” *Guinea Pig* (April 1949): 4-5, esp. 4.

In 1958, Dr. McIndoe was invited to deliver the Bradshaw lecture to the Royal College of Surgeons of England, a high honor. In this lecture, he summarized the historical background of facial reconstruction and plastic surgery. McIndoe outlined the context of his practice during WWII. Upon reviewing the previous centuries of work, he concludes, “Finally we have now arrived at the time when form, color, harmony and contour are of immense importance, when we can within a reasonable time create order out of chaos and make a face which does not excite pity or horror.”⁶⁵ Despite appearing energetic, McIndoe was nearing the end of his life.

Sir Archibald died in his sleep at a London hotel on the night of April 12, 1960, one month before his sixtieth birthday. He had spent the previous evening at the Saints and Sinners Dinner, and those who saw him said he seemed in good spirits. The following morning he was to perform a clandestine cosmetic surgery on an unknown patient, perhaps in his own hotel room.⁶⁶ The circumstances of this procedure are unknown, as it was not scheduled. Additionally, the reason for McIndoe’s secrecy surrounding the operation is unknown. This surgery has been inferred from the fact that a traveling case of surgical instruments was found in the hotel room with his body.⁶⁷ Mr. Marchant worked in the same operating theatre as McIndoe from 1957 until his death, and says that those who knew the man believe he died of exhaustion, although this is not a technical diagnosis.⁶⁸ Readers are unlikely to be satisfied on the true cause of his death, as autopsy results are unavailable — if one was performed — and McIndoe’s body was cremated. As far as exhaustion is concerned, McIndoe operated on several cases each day for a total of twelve to fourteen hours, and afterwards attended events to deliver speeches or present his

⁶⁵ McIndoe, “Total Reconstruction,” 411.

⁶⁶ McLeave, *McIndoe*, 215; Marchant.

⁶⁷ Jonathan Parrett, interviewed by author, East Grinstead, November 18, 2019.

⁶⁸ Marchant.

findings. He drank heavily and smoked for many years.⁶⁹ This is a rigorous lifestyle that Sir Archibald sustained, but it ultimately may have led to his early demise.

In life, McIndoe had many friends and patients who enjoyed his company. There were also those who found themselves at odds with the Maestro. The existing studies of Dr. McIndoe have neglected the less flattering details of his person — he could be overbearing and difficult. According to Bob Marchant, Sir Archibald liked to have his regular team in his operating room and “did not tolerate idiots well.”⁷⁰ He ridiculed the aforementioned Dr. Olgilvie, who opposed McIndoe’s stance on tannic acid in a series of letters published in *Lancet*.⁷¹ The previously described evidence to suggest he was conducting unsanctioned private practice in hotel rooms at the time of his death does make one wonder at how he profited by operating outside the NHS from the insecurities of his off-the-books cosmetic patients.

Despite these possible shortcomings, McIndoe worked hard to serve his clients. McIndoe was willing to operate *pro bono* before the war broke out. McLeave cites an anecdote of a Hungarian student whose nose had been smashed in a door. The young man was unable to pay McIndoe’s fee, but the surgeon sponsored his procedure and hospital stay at no cost. This beneficence is consistent with McIndoe’s advocacy for his wounded flyers. Sir Stafford Cripps was the Minister for Aircraft Production from 1942 until 1945. He was opposed to extending the term of paid leave for R.A.F. personnel undergoing treatment until he and his wife visited Queen Victoria Hospital in 1943. The tour was going smoothly until the curtain to one of the saline baths was opened as the group walked by and exposed one of the worst cases in the ward at the

⁶⁹ McLeave, *McIndoe*, 145.

⁷⁰ Marchant.

⁷¹ Mayhew, *Guinea Pig Club*, 66.

time. Whether this was shrewd manipulation or fortunate accident is unknown, but seeing the patient's condition convinced Sir Stafford to advocate in Parliament to extend the paid convalescence to two and a half years from the original ninety days.⁷²

Another practice Sir Archibald argued in favor of was dry anesthesia, wherein a patient's blood pressure is lowered through a high spinal epidural. Dry anesthesia was introduced prior to 1950 by anesthetist John Gillies, not to be confused with the plastic surgeon Harold Gillies.⁷³ McIndoe staunchly supported the practice, as it meant less circulating blood in the regions of the body he specialized in: the face and hands. Sir Archibald and his anesthetist of many years, Dr. Hunter, ultimately could not reconcile after Hunter refused to employ this method. Hunter opposed this technique, as he did not like reducing the patient's blood pressure and pulse to abnormally low levels. Under traditional anesthesia, the anatomy has a normal supply of blood which can impede the surgeon's vision and create hazards related to blood loss during procedures requiring high precision.⁷⁴ It was partly because of this disagreement that McIndoe and Hunter ceased working together at some point in the late 1940s. Ultimately, enough data was collected to prove Hunter correct. Patients sometimes died and experienced complications related to ischemia, or oxygen deprivation, in the brain and tissues from reduced circulation. As a result of

⁷² McLeave, *McIndoe*, 65-6 and 132-3.

⁷³ John Gillies, "Anaesthetic Factors in the Causation and Prevention of Excessive Bleeding During Surgical Operations," Joseph Clover Lecture delivered at the Royal College of Surgeons, March 29, 1950. Accessed March 13, 2020.

⁷⁴ McLeave, *McIndoe*, 138.

this unfortunate tendency, high spinal anesthesia was no longer widely used after the late 1950s.⁷⁵

The second member of McIndoe's triumvirate was the anesthetist Dr. John Hunter. Heretofore the focus has been on McIndoe's talent, but the other members of his team allowed him to shine. In his own right Dr. Hunter was an accomplished physician. Summaries of his positions can be found in his obituaries in such prestigious publications as *Lancet* and *Anæsthesia*. These journals are where the majority of his biographical information can be found. Hunter had already been certified as a general practitioner for five years when McIndoe arrived in London in late 1930, and only "a few years later" did he decide to specialize in anesthesia.⁷⁶ It is unknown when he and McIndoe first encountered each other, but it must have been between 1931 and 1938, because the pair worked together prior to McIndoe's posting at Queen Victoria Hospital. The extensive list of respected hospitals in Hunter's resumé conveys his capabilities.

Hunter's 1953 *Lancet* obituary reports:

His choice [to change specialties] was a successful one. His work at the Prince of Wales's Hospital, Tottenham, at the King Edward VII Sanatorium, Midhurst, at the Hospital for Tropical Diseases, at the Lord Mayor Treloar's Hospital, Alton, at the Metropolitan Hospital, at the King George V Hospital, Ilford, and above all, at the plastic surgery unit at Queen Victoria Hospital, East Grinstead, earned him wide recognition. He

⁷⁵ Robert John Minnitt, John Gillies, and Lucien Benedict Wevill, *Textbook of Anaesthetics ... With a section on regional analgesia by L.B. Wevill, etc.* (Edinburgh: E. & S. Livingstone, 1948), 475, 547.

⁷⁶ "John Truscott Hunter," *Lancet* 262, no. 6781 (1953): 350.

was elected a fellow of the Faculty of Anesthetists of the Royal College of Surgeons of England in 1948.⁷⁷

Hunter is remembered by Guinea Pigs as much for his ebullient personality as he is for his medical distinction. The obituary published in *Anæsthesia* reports that he was the most popular member of the resident staff at St. Bartholomew's Hospital and his cheerful greeting and large figure was known to "countless friends."⁷⁸

The Guinea Pigs dubbed their anesthetist Hunter "John the Giant Killer" for his role in the operating theatre. The title is probably a reference to Jack the Giant Killer, from the fairy tale Jack and the Beanstalk. Dr. Hunter appears in Page's memoir, for his rapport with the patients as he was putting them under:

The rotund figure in its white theatre gown appeared more like a pork butcher than an anesthetist. Above the large paunch was a friendly face consisting of chubby cheeks, double chin, rimless glasses and a small moustache. A few wisps of hair failed to hide much of the bald skin on his head.

'I'm John Hunter, better known as the Gasworks,' he added cheerfully. 'Which reminds me, have you heard the story of the girl called Virginia...?'

Giggles from the other occupants in the room attested to Doctor Hunter's popularity as a storyteller. The yarn failed to interrupt the anesthetist's work, and as the story enlarged so did he continue with his preparations...Neatly he stretched and tied a narrow piece of flexible tubing about my left bicep and massaged the arm in the

⁷⁷ "John Truscott Hunter," 350.

⁷⁸ "Obituary," *Anæsthesia* 8, no. 4 (1953): 292.

direction of the elbow. Quickly the deep veins began to show as the blood pressure built up.

‘Just a little prick, if you’ll pardon the expression,’ said the doctor cheerfully.⁷⁹

This is rather precise wording coming from a man who was rendered unconscious shortly thereafter, but the reader can trust that the gist of the quotation is preserved in the account.

Hunter’s humor is remembered in the four obituaries for Hunter submitted by Guinea Pigs to the December, 1953 issue of the magazine.

Words of Dr. Hunter’s memory came from near and far. Tom Gleave, a Guinea Pig from Berkshire, wrote: “The affection in which ‘Uncle John’ was held in the land of Guinea Piggery was deep and genuine. He was a friend, revered and respected, of every member of the club which he helped to found...The confidence he inspired among those first arrivals was contagious. It was passed down to successive newcomers to the Sty. They in turn became the ‘old hands’ who passed on the legend of ‘Uncle John.’”⁸⁰ From South Africa, Guinea Pig Godfrey Edmonds also remembered Hunter’s character: “The presence of John Hunter at any gathering of the boys always lent an atmosphere of solid masculine enjoyment which no one but he could impart. A few men, a few very gifted men, have that quality, of making their juniors look on them with that special regard usually reserved for their favorite uncles.”⁸¹ Both of these accounts also detail the care with which Hunter went about his work. They discuss how he followed up with patients after operations to inquire about their experience with the anesthesia, and if anyone was sick because of the drugs he administered, he brought them a pint of beer.⁸²

⁷⁹ Page, *Shot Down in Flames*, 123-4.

⁸⁰ Tom Gleave, “Doctor John Hunter,” *Guinea Pig* (December 1953): 30.

⁸¹ Godfrey Edmonds, “Doctor John Hunter,” *Guinea Pig* (December 1953): 30.

⁸² John Hunter, “Anesthesia and Guinea Piggery,” *Guinea Pig* (December 1947): 37-8, esp. 38.

While the medical soundness of this is debatable, it earned him many friends among the Guinea Pigs. Like McIndoe, Hunter did not survive to see his sixtieth birthday. He died of complications related to his diabetes in September, 1953 at the age of fifty-five.⁸³ As it turned out, this abbreviated lifespan held for the final member of McIndoe's team.

The third member of Sir Archibald's medical triumvirate was the scrub nurse Jill Mullins, born in 1911. Much of the biographical information enclosed is extracted from the obituary Dr. McIndoe wrote of her in the Summer 1960 *Guinea Pig*.⁸⁴ She became a nurse, and before 1931 began working in operating theaters at St. Bartholomew's Hospital in London. As previously stated, Dr. McIndoe transferred to that hospital from his post at the Mayo Clinic in 1931. She had already become a fixture when he entered the scene. She was promoted to be presiding sister, or nurse, of Operating Theatre C. In that role, she distinguished herself and was offered the job of overseeing the newly constructed surgery ward at Queen Elizabeth Hospital in Birmingham in 1934. She was not in this role long, as "Birmingham was not for her," and in 1935 she rejoined Dr. McIndoe. According to McLeave's biography of McIndoe, he and Mullins had a romantic affair. McLeave writes: "In her more temperamental moments Jill would let fly with the secret that she expected the surgeon to marry her."⁸⁵ She also dated Guinea Pig and pilot Geoffrey Page for two years.⁸⁶ Mullins was involved in surgical proceedings and social gatherings outside the hospital, whereas it fell to other nursing staff to monitor and provide care to patients when they were not in the operating room. Mullins worked with McIndoe until 1957,

⁸³ Tony Wildsmith, "Dr John Truscott Hunter," Royal College of Anesthetists UK, accessed February 28, 2020.

⁸⁴ Archibald McIndoe, "In Memoriam," *Guinea Pig* (Summer 1960): 45-6.

⁸⁵ McLeave, *McIndoe*, 138.

⁸⁶ Page, *Shot Down in Flames*, 139.

when she moved to South Africa with her own husband, whom she had married earlier that year.⁸⁷ The last two years of her life are undocumented, but she died of a brain hemorrhage *en route* to South Africa after a holiday to visit England and the McIndoes. She was buried at sea in October, 1959.⁸⁸

Besides Mullins, little is known of the lives of nurses at Queen Victoria Hospital. What information is available is extracted from *Guinea Pig* and memoirs of patients. Nurses on Ward Three at East Grinstead were responsible for caring for patients while they recovered between operations and helped to prepare them for surgery. They tolerated a great deal of rude behavior from the patients they nursed. The men they treated were young, and the Royal Air Force was rife with entitled aristocratic pilots, as these were the officers privileged to train to fly the glamorized Spitfires and Hurricanes. Here, Hillary and Page's accounts will be used to describe how patients interacted with nurses. This small sample of two experiences is not representative of the entire group, as both were injured in 1941, but their reports are illustrative of how they treated their caregivers. Through their lens we have a view, albeit limited by class differences and the sexism at that time, of what nurses experienced.

Richard Hillary is remembered by Dr. McIndoe as an especially vocal and difficult patient. He was shot down during the Battle of Britain in September 1941 at the age of 21 and suffered burns to his face and hands. He had attended Trinity College at Oxford University prior to the war and was a member of the social elite by birth. He had rowed for his college and was in trials for a Blue, the highest achievement awarded by the university to student athletes.⁸⁹

⁸⁷ Page, *Shot Down in Flames*, 181.

⁸⁸ McIndoe, "In Memoriam," 45.

⁸⁹ Hillary, *The Last Enemy*, 12.

McIndoe attests to his standoffish attitude in his book review of Hillary's memoir. This tale was published shortly before Hillary was shot down a second time and killed in January, 1943.

McIndoe writes:

At my earliest meeting with him it was apparent that he was going to be a difficult patient, one so far intellectually above the others that he would be unpopular. He did not deny his fellowship with his fellow pilots so long as he could be segregated with a few chosen companions and the rest kept out of his way...His rapier-like verbal thrusts, his constant probings and inquisitive cross-examinations, were too much for his fellow patients.⁹⁰

While he admired Hillary's intelligence, it is apparent that the patient bullied others and alienated himself. McIndoe does not address Hillary's treatment of staff, but *The Last Enemy* contains a handful of illustrative excerpts. Hillary overstepped once while recovering from having his eyelids grafted. Blindfolded for five days by bandages, Hillary relied on his friend and fellow patient Tony Tollemache to know when there were no nurses nearby so he could use foul language. As a prank, Tollemache told Hillary he was safe to speak freely, and he exclaimed, "Jesus Christ, what a hospital! It stinks like a sewer, it's about as quiet as a zoo, and instead of nurses we've got a bunch of moronic Irish amazons."⁹¹ The head nurse of Queen Victoria Hospital, Matron Hall, was indeed at the foot of Hillary's bed upon this outburst and was entirely unamused. She had Hillary relocated to a separate room in the hospital from Tollemache because of the disorder the two were causing. A few days later, however, her professional caring

⁹⁰ McIndoe, "Valiant for Truth," 5.

⁹¹ Hillary, *The Last Enemy*, 149.

was exposed when she sent Hillary with cosmetic powder as he left to convalesce at a countryside estate before his next operation in the following weeks.⁹² Matron Hall tolerated rude behavior to a point, but she eventually was forced to take measures in order to keep her hospital running smoothly.

When Geoffrey Page arrived for the first time in November of 1941, with extensive burns to both hands, Hillary was already at Queen Victoria Hospital. The two came from a similar social stratum and had become friends by the time they were allowed to return to service in 1942. Page reports his first encounter with Hillary: “The peaceful garden scene was counterposed by a loud voice breaking the air. ‘You stupid bastard Richard.oooops, sorry, Sister.’ ... ‘Don’t worry about Sister,’ another voice replied, ‘they’re used to bastards in Ireland.’”⁹³ Page seems to have been a more polite patient than Mr. Hillary. In his reflection of being prepared for surgery he writes of the kindness of a night nurse who brought him tea and toast when he was awakened by nightmares. He recalls the cold efficiency of the nurse who sterilized and bandaged the areas of his skin that were to be grafted.⁹⁴ We hear of one instance where an anonymous nurse advocated for Page when an intern was delegated to remove painful stitches that had been placed through a nerve in his memoir: “The sister’s voice rose above the heavy racking sobs that followed. ‘I think perhaps he’s had enough for one day, sir.’”⁹⁵ The following day Dr. McIndoe circumvented the problem by ordering morphine for Page and Nurse Meally was able to remove the offending stitch painlessly.⁹⁶

⁹² Hillary, *The Last Enemy*, 149-52.

⁹³ Page, *Shot Down in Flames*, 118.

⁹⁴ Page, *Shot Down in Flames*, 120-2.

⁹⁵ Mayhew, *Guinea Pig Club*, 72; Page, *Shot Down in Flames*, 130-1.

⁹⁶ Page, *Shot Down in Flames*, 131.

The Charge Nurse on Ward Three was Sister Meally. She is saluted in the Christmas, 1947 issue of *Guinea Pig* for her engagement to be married and subsequent retirement from nursing. It is unknown exactly how common this was among the nurses, but there were others who retired after they were engaged to be married. The editorial announcing this praises sister Meally for her adept care and nursing capabilities. “Sister Meally’s personality,” it reads, “partly accounted for the feeling, often expressed by her patients, that ‘returning to Ward III is like returning home.’...She is justly proud of her record of not having lost a single case in her Ward throughout the war. By her skillful attentions and devoted care, especially in the days when patients returned direct to the Ward from the operating theatre, Sister Meally undoubtedly saved the lives of more than a few men who will read these words. Her name is one of those [sic] inseparately associated with East Grinstead, and will remain so.”⁹⁷

In particular, Page’s relationship to Matron Hall, who presided over the entirety of Queen Victoria Hospital, was decidedly less tense than Hillary’s. After Page received an injection of sedative thirty minutes prior to his operation, Matron Hall came to check on him. He describes her concern for his dry mouth in a maternal light that gave him comfort in a time of uncertainty. It seems that she had an omniscient awareness of what happened in her hospital, as she was the head nurse during the war. Matron Hall tolerated some unorthodox behavior, such as civilian pajamas and visitors after regular hours.⁹⁸ For her service during the war years Matron Hall was awarded the Order of the British Empire in 1949.⁹⁹ Accounts of how nurses were treated during

⁹⁷ “Farewell...Sister Meally,” *Guinea Pig* (Christmas 1947): 12-3.

⁹⁸ Hillary, *The Last Enemy*, 146 and 151.

⁹⁹ “Honour for Matron Hall,” *Guinea Pig* (August 1949): 8.

WWII are limited, but Hillary and Page provide a handful of examples ranging from tender to hostile.

After the war ended life marched onward for Guinea Pigs. In 2006 *The Guardian* published interviews with seven of the surviving Guinea Pigs: Dennis Neale, Derek Martin, Paul Hart, Alan Morgan, Bill Foxley, Alex Shankland, and Sandy Saunders. This group, and Geoffrey Page who published his memoir in 1999 before his death in 2000, will serve as a sample of the Guinea Pigs who were able to live normal, or even exemplary, lives after the war. This sample is not necessarily representative, but the general positive outcomes are reflected in the absence of a single suicide in the Club. This prosperity is part of why the Guinea Pigs are such a remarkable group, and the ways in which they lived are worth reporting. The medical talent of McIndoe, as well as the financial and social support the Guinea Pig Club offered them, helped facilitate these successes. Many members lived well into their nineties, and ten are alive in 2020, the youngest of whom is 96.¹⁰⁰ Those still living wish to retain a degree of privacy, so their names will respectfully not be listed here for the legions of people who no doubt will read this thesis.

Geoffrey Page was a founding member of the club and was secretary at its first meeting on that hungover July morning in 1941. Page was the nephew of an aircraft manufacturer, and first took interest in aviation as a boy. His father and uncle had opposed his enlisting in the Royal Air Force and threatened to withdraw his university tuition if he joined the aviation college at Cranwell. Undeterred, Page enrolled in flying training during his studies at Imperial College. In the summer of 1939 he was called up for service. He would eventually fly a Hurricane in the Battle of Britain in 1940, and it was during this engagement that his aircraft

¹⁰⁰ Bob Marchant, email message to the author, August 5, 2019.

caught fire and forced him to parachute into the English Channel. He was pulled from the water by the English Navy after an estimated four hours and sent to a hospital in London to have his burned hands treated.

Dr. McIndoe discovered Page's case, and had him transferred to his ward. Page spent two years in and out of East Grinstead undergoing a series of operations to regain function in his hands. His memoir gives one the sense that his face was not severely burned and healed of its own accord with minimal scarring. This is supported by the photographs of Page from after his recovery he includes. Page returned to flying in the R.A.F. between the final operations on his hands in 1943. He would ultimately achieve fifteen confirmed combat victories, earn the Distinguished Flying Cross with a Bar, and the Distinguished Service Order.¹⁰¹ After the war, Page lived a conventional family life for a man of his generation. He married Pauline, the daughter of an American couple he met during his goodwill lecture tour of the United States and Canada. They had three children, and the couple was still married when Geoffrey died in 2000.¹⁰²

Page's scarring was largely restricted to his hands, but even many of those who were left with facial scars were able to live normal, apparently fulfilling lives. One example of a Guinea Pig treated for extensive facial burns is Warrant Officer Bill Foxley. He joined the Royal Air Force in 1942 at the age of eighteen and trained as a navigator.¹⁰³ The skin of his face and hands was vaporized when a fuel tank exploded next to him. His fingers had melted together, he was

¹⁰¹ Page, *Shot Down in Flames* 8-9, 137, 203.

¹⁰² Page, 180; Dan van der Vat, "Geoffrey Page: Fighter Ace who Received Pioneering Plastic Surgery," *Guardian*, August 28, 2000, accessed May 8, 2019.

¹⁰³ "Bill Foxley," *Telegraph*, December 15, 2010, accessed May 8, 2019.

blind in one eye and his vision was severely limited by a scorched cornea in the other.¹⁰⁴ Foxley may have escaped the crash unscathed had he not courageously gone back into the burning airplane to try to rescue the trapped wireless operator.¹⁰⁵

Foxley underwent a total of twenty-nine operations at Queen Victoria Hospital over the course of three and a half years. He was said to be the most badly burned airman to survive World War II, and despite his severe facial scarring he was married twice and appeared with a speaking role in the 1969 film *Battle of Britain* as a badly burned veteran.¹⁰⁶ In 1947 he married his nurse from East Grinstead, Catherine Arkell.¹⁰⁷ He and Catherine had two children before she died in 1971, and his second marriage was brief, but it yielded a third child. Foxley was a public speaker about his recovery in the decades after the war. He was probably a valuable source of hope for veterans suffering from severe wounds in the Falklands conflict and the Iraq and Afghanistan wars.¹⁰⁸

Concurrently with this work he held a position at the Central Electricity Generating Board in London. An interesting anecdote offered in his obituary notes, “Many of the workmen were unaware that he was nearly blind and when a redecoration job had been completed, Foxley would press his face up to within a few inches of the wall and glare at it, not letting on that it was the only way he could inspect the paint work.”¹⁰⁹ Foxley could, however, see the shock he inspired in much of the public. In a 2006 interview he mentioned how he would take the train to

¹⁰⁴ Macnamara and Metcalfe, “Sir Archibald” 225.

¹⁰⁵ “William James Foxley,” East Grinstead Museum, November 23, 2016, accessed May 8, 2019.

¹⁰⁶ Mayhew, *Guinea Pig Club*, 187.

¹⁰⁷ “Stop Press,” *Guinea Pig* (July 1947): 23.

¹⁰⁸ “Bill Foxley,” *Telegraph*.

¹⁰⁹ *Ibid*.

London for work and the seat next to him would reliably be empty—his response was to say “It’s all right I’m not going to bite you.”¹¹⁰ Foxley ran long distances into his seventies and rode his bicycle to the supermarket until a few months before his death in December, 2010 at the age of eighty-seven.¹¹¹

A further example of a flyer returning to the war after McIndoe’s surgical intervention, like Page, was Derek Martin, who was pulled from the sea and thought to be dead until he arrived at West Highland Cottage Hospital at Oban in 1941. He was stabilized and later transferred to Queen Victoria when his injured scalp would not re-adhere to his skull with conventional treatment.¹¹² McIndoe reattached his all-but severed scalp and saved the eye that had been dangling out of its socket. Martin recounts the unconventional technique McIndoe employed to complete the endeavor in his 2006 interview: “When I was strong enough, they transferred me to East Grinstead, arriving in April 1941. I was too ill to go into the general ward at first — my skull wasn’t healing and it looked like McIndoe would have to add a steel plate. But he came up with an ingenious irrigation system. Tubes were inserted under my forehead, which carried a saline wash under the scalp to drainage tubes at the back. After several days of lying flat and still, the bone started to heal again.”¹¹³ After his recovery had progressed sufficiently, Martin returned to training for Sunderland flying boats and served as an instructor before moving to the Far East Air Force Headquarters in Singapore in 1944. There he was staff officer in charge of maritime operations in a battle theatre that ranged from India to Japan.

¹¹⁰ Lucinda Marland, “The Guinea Pig Club: Bill Foxley,” *Guardian*, November 10, 2016, accessed May 7, 2019.

¹¹¹ “Bill Foxley,” *Telegraph*.

¹¹² “Derek Martin,” East Grinstead Museum, November 23, 2016, accessed May 8, 2019.

¹¹³ Marland, “Bill Foxley.”

Derek Martin married in 1950, and he survived his first wife. He married again, and his second wife was still living when he died as the last founding member of the Guinea Pig Club on 4 April 2014 at ninety-three years of age.¹¹⁴

Guinea Pig George “Dennis” Neale was interviewed in 2006. He joined the R.A.F. at the age of fifteen in 1935.¹¹⁵ In January, 1943 the bomber he was flying landed safely under blackout conditions, but the plane coming in behind him landed on top of Neale’s craft and its propellor struck from the top of his head toward his chin, pushing his nasal bone into the roof of his mouth, smashing his right eye socket and cheekbone, and breaking both sides of his jaw in addition to burns of the face.¹¹⁶ He was in a coma for a month. Depending on which source one consults, Neale either received seven or nine operations while at East Grinstead.¹¹⁷ After his release from hospital Neale served as a warrant officer in Germany, but was never cleared to fly again owing to his double vision. After the war, Neale ran the Red Lion Pub in Cassington, England and later moved to Witney for work. His obituary mentions his second wife, Eunice, but there is no information regarding his implied first marriage. They met in 1976 and were still wed in November 2007 when Neale died of leukemia. He was eighty-seven.¹¹⁸

Paul Hart was one of Dr. McIndoe’s early patients at East Grinstead. He received a total facial reconstruction. He arrived at Queen Victoria Hospital in December 1940 with burns to his

¹¹⁴ “Wing Commander Derek Martin — Obituary,” *Telegraph*, May 13, 2014, accessed May 7, 2019.

¹¹⁵ “The Guinea Pig Club: Dennis Neale,” *Oxford Mail*, November 28, 2007, accessed May 8, 2019.

¹¹⁶ Lucinda Marland, “The Guinea Pig Club: Dennis ‘Eyes Higher’ Neale,” *Guardian*, November 10, 2016, accessed May 7, 2019.

¹¹⁷ “George Dennis Ivor Neale,” East Grinstead Museum, November 23, 2016.

¹¹⁸ “Dennis Neale,” *Oxford Mail*.

face, hands and thigh.¹¹⁹ Hart was originally taken to Wrexham Hospital, but was transferred to McIndoe's care once he was stable enough to be moved. He was twenty-one at the time of his accident and received twenty-three operations over the course of the three years he stayed at East Grinstead.¹²⁰ During those years Hart became close with Dr. McIndoe, and he tells an interesting story of the lives of the two men after wartime: "After the war we went farming in Tanzania together, growing wheat at 6,500 ft on Mount Kilimanjaro. I eventually bought a farm next to his. One of my enduring memories is of seeing him riding his horse in the early morning through the fields of wheat. It was probably the only time he really relaxed."¹²¹ Despite the intriguing nature of the farming adventure, there is no further information available besides this mention. In his 2006 interview Hart also mentions his wife, Vera, and how the two of them travelled to Wales where his plane had crashed into a cliff during low-visibility conditions. Hart was able to locate the man who had carried him to medical attention. He died in November, 2006.¹²²

Alan "Fingers" Morgan joined the R.A.F. in 1942 and trained as a flight engineer on a bomber crew. He was injured in February 1944. The notes from his case in the East Grinstead Museum website read: "On return from target, the main rear door was blown open. Morgan retrieved the wireless operator who had passed out from lack of oxygen, connected him to a supply, and went to close the rear door. He passed out as well and was retrieved by the bomb-aimer. In the process, Morgan touched the airframe of the plane with bare hands, which was at around -42F. His fingers had to be amputated." Prior to the war Morgan had trained as a

¹¹⁹ Lucinda Marland, "The Guinea Pig Club: Paul Hart," *Guardian*, November 10, 2016, accessed May 7, 2019.

¹²⁰ "Paul Rounds Hart," East Grinstead Museum, November 23, 2016, accessed May 8, 2019.

¹²¹ Marland, "Paul Hart."

¹²² "Paul Rounds Hart."

toolmaker. Undeterred by his circumstances, Morgan worked to strengthen the nubs of the eight fingers he lost and was eventually hired as a toolmaker. In his 2006 interview he proudly reported being able to work to precision at “2/10 of a thousand.”¹²³ Days before his accident, “Fingers” girlfriend Ella had given him an early birthday present—a ring. After the accident the couple married, and their son wears the ring today. In a 75th anniversary video celebrating the Guinea Pig Club and promoting the R.A.F. Benevolent Fund, Alan and Ella describe his experience in the Club and discuss how helpful the fund was in giving Alan a motorized scooter and a handicapped-accessible shower unit.¹²⁴

Alex Shankland enlisted in the Royal Air Force in 1941. He served as a radio technician, navigator, and air bomber and eventually became an instructor with various operational units. It was during this time as an instructor that he crashed into a forest during takeoff for a training sortie in a Short Stirling when both of the craft’s engines failed. The injuries he sustained to his face, nose, eyelids and hands would require twenty operations at East Grinstead.¹²⁵ He likened McIndoe’s delicate stitching of the webbing between his fingers to embroidery. The notes on his case are not as extensive as those for the other Guinea Pigs, but in his obituary he is said to be the “Beloved husband to the late Irene and a much loved grandfather,” so he did have a family after the war and had become a widower before himself dying in 2008.¹²⁶

The final inspiring Guinea Pig case presented here is that of Arthur “Sandy” Saunders. He was injured at age twenty-two in September 1945 during a training flight in a Tiger Moth.

¹²³ “Alan Morgan,” East Grinstead Museum, November 23, 2016, accessed May 8, 2019.

¹²⁴ Alan and Ella Morgan, interview, “The Guinea Pig Club 75th Anniversary: Alan ‘Fingers’ Morgan,” (video), July 13, 2016. Accessed April 30, 2019.

¹²⁵ Lucinda Marland, “Alex Shankland,” *Guardian*, November 10, 2016, accessed May 7, 2019.

¹²⁶ “Alexander Court Shankland,” *Stamford Mercury*, September 13, 2008.

The aircraft was caught in a strong crosswind during landing, crashed, and caught fire. The navigator was killed on impact and Sandy was knocked unconscious.¹²⁷ When he came around, he was able to climb out of the plane. His initial treatment did not take place at Queen Victoria hospital—his eyelids were replaced and he received other autografts at Queen Elizabeth hospital and returned to duty as second-in-command at a prisoner of war camp. He there began to experience problems with closing his eyes as the grafted skin of his eyelids contracted, and someone referred him to Dr. McIndoe. At Queen Victoria Hospital, Sandy's eyelids were replaced once more, he received a nose graft, and further work was done on reconstructing his face.¹²⁸ Dr. McIndoe inspired Saunders to change his career and become a General Practitioner, and he worked for forty years in Nottingham. He was diagnosed with cancer in 2016 and was able to ride along in a last flight in a Tiger Moth in September of that year. He died in February, 2017.¹²⁹

Ward Three closed for Guinea Pig treatment on January 11, 1948. There was a party held to commemorate the occasion. By then the Guinea Pigs had all been discharged from the hospital excepting the occasional minor revision, and those cases were transitioned to the Royal Canadian Air Force Wing that had been built on the grounds in 1943.¹³⁰ Ward Three shifted to treating women's burns and civilian plastic cases. McIndoe reduced the number of hours he

¹²⁷ "Arthur Courtney Saunders," East Grinstead Museum, November 23, 2016, accessed May 8, 2019.

¹²⁸ Lucinda Marland, "Sandy Saunders," *Guardian*, November 10, 2016, accessed May 7, 2019.

¹²⁹ "Sandy Saunders: WW2 'Guinea Pig' Pilot Dies from Cancer," *British Broadcasting Center*, February 28, 2017, accessed May 7, 2019.

¹³⁰ Henry Standen, "Good Bye, Ward III," *Guinea Pig* (April 1948): 5.

worked at Queen Victoria Hospital after the Guinea Pigs no longer needed his treatment regularly, and the hospital came under the administration of the NHS in 1948.

III. Healing Minds on Ward III and Beyond

McIndoe's medical practice was guided by his belief in the importance of reintegrating his patients into society. The severely disfigured reconstruction patients of World War I had largely been rejected by society after their treatment was completed — to the extent that surgeons were capable.¹³¹ Macnamara and Metcalfe summarize the situation: “[Harold] Gillies’ former patients struggled to re-integrate into society when they tried to return to normal lives and many became isolated due to their physical appearances. Many ended up in menial jobs, one even in a traveling circus, labelled the ‘elephant man’. Depression was very common and sometimes suicide.”¹³² Gillies mentions how burn patients did not have their injuries addressed in a timely manner, perhaps because they were fewer in number compared to the maxillofacial traumas that were arriving in large volumes at trauma wards and possibly because they survived at lower rates than other types of traumas.

By contrast, McIndoe's patients were able to re-assimilate into society through a holistic approach to their treatment. They were encouraged to go to the pubs in East Grinstead, and seats were reserved for Guinea Pigs at the cinema and at West End theaters in London.¹³³ Between operations, the flyers were sometimes sent to work at factories alongside civilians.¹³⁴ Some were even allowed to return to operational flying. This environment allowed the young men to have

¹³¹ Biernoff, *Portraits*, 113.

¹³² Macnamara and Metcalfe, “Sir Archibald,” 226.

¹³³ Mayhew, *Guinea Pig Club*, 179.

¹³⁴ Mayhew, 177; Marchant.

morale high enough to sustain them through lengthy treatments that may otherwise have darkened their outlook. The positive environment of the Guinea Pig Club can be seen in the humor with which it was administered. An example of this is the selection of a double amputee as the club's first treasurer, with the provided reasoning being that he could not run away with the money. The initial secretary was Geoffrey Page, who was in the process of having his hands reconstructed, so minutes from early meetings are scant.¹³⁵

The club had an annual membership fee of 2s/6d , and depending on which account one reads the criteria for membership ranged from two to ten operations at East Grinstead.¹³⁶ It seems likely that the actual number of procedures for membership was never strictly established, and the men of the club simply allowed anyone to join with whom they enjoyed spending time on Ward Three. Bob Marchant, current secretary of the club, defines the qualifications for membership as at least two operations at Queen Victoria Hospital, plus the candidate had to be in the allied air forces, and pay the aforementioned membership fee. He admits that there were some Guinea Pigs who did not strictly meet the criteria, which further endorses the theory that membership was extended to anyone the Guinea Pigs saw as a kindred spirit. Members did not stop joining after the war ended, either. The club has been active in supporting veterans of each conflict Britain has been involved in since 1945, such as the Falklands War and Afghanistan.¹³⁷

The 649 Guinea Pigs were aware of the exclusivity of their club. McIndoe described in his Bradshaw Lecture the club's membership and started by saying that probably more than

¹³⁵ Mayhew, 173.

¹³⁶ Henry Standen, "The Guinea Pig Club," *Guinea Pig*, (August 1948): 10-1, esp. 10; M.C. Meikle, "The Evolution of Plastic and Maxillofacial Surgery in the Twentieth Century: The Dunedin Connection," *Surgeon* 4, no. 5 (2006): 325-334, esp 332.

¹³⁷ Marchant.

22,000 men from the R.A.F. were incinerated during the Second World War. Some patients suffered from other injuries as a result of being shot down, such as fractured bones, loss of eyesight and loss of hearing. McIndoe goes on to say that these men were all treated in R.A.F. Burns Units across the country. Sir Archibald selected fewer than 700 of these men to be transferred to East Grinstead for surgical repair during the Second World War.¹³⁸ His criteria for taking on a case are not enumerated anywhere, but it seems that McIndoe was the most highly regarded surgeon in England, if not the world, for treating burns at this time. The most difficult cases were probably designated to him, while those that were less complex or that did not involve the face and hands may have been directed to the other three reconstructive units.

The Guinea Pigs came from many nationalities. They penned an anthem of their own, which was sung on the ward and at reunion weekends. Set to the tune of *The Church's One Foundation*, it was reflective of the diversity in the ranks of the club, and the good humor with which its members accepted their condition:

1 We are McIndoe's army,
We are his Guinea Pigs with dermatomes and pedicles,
Glass eyes, false teeth and wigs.
And when we get our discharge
5 We'll shout with all our might
'*Per ardua ad astra*,'
We'd rather drink than fight,
John Hunter runs the gas works,

¹³⁸ McIndoe, "Total Reconstruction," 411.

Ross Tilley wields the knife.
10 And if they are not careful
They'll have your flaming life.
So, Guinea Pigs, stand ready.
For all your surgeon's calls:
And if their hands aren't steady
15 They'll whip off both your ears.
We've had some mad Australians,
Some French, some Czechs, some Poles.
We've even had some Yankees,
God bless their precious souls.
20 While as for the Canadians
Ah! That's a different thing.
They couldn't stand our accent
And built a separate Wing,
We are McIndoe's Army¹³⁹

This anthem is also reflective of the diverse nationalities represented in the patients at East Grinstead. The majority of those treated were R.A.F., and the records and accounts of these individuals are the most readily accessible thanks to resources on the East Grinstead Museum's website, and in the club's magazine *Guinea Pig*. Please note, as well, the deliberately missed

¹³⁹ "Words and Music," *Guinea Pig* (1946): 7.

rhyme between lines thirteen and fifteen. This sort of wit seems to have been the accepted brand of these remarkable young men.

IV. Social Support after the War

Testimonies to the ongoing ties between the Guinea Pigs exist in the form of *Guinea Pig* magazine. It was first mailed out in 1944 and the last available issue dates to Fall, 2003. It was sponsored by Marks and Spencer for as long as it was published. Another example of the camaraderie lasting into the postwar decades was the Guinea Pig Pub, first conceived in 1949 and finally established up the hill from Queen Victoria Hospital in 1957.¹⁴⁰ Dr. McIndoe pulled the inaugural pint, and the pub closed in the 2007.¹⁴¹ Annual dinners were held at the Whitehall, an establishment in East Grinstead, and were heralded by the magazine. The Guinea Pigs and male staff would dine separately from the female spouses and Friends of the Guinea Pig Club, such as nurses. The reason for segregation by sex is not published in any available source. After the meal both groups would unite. The photographs posted in *Guinea Pig* demonstrate that these so-called “Lost Weekends” were a raucous occasion for the members to reconnect. This was also an opportunity for Dr. McIndoe, and later other surgeons, to perform further operations as they saw fit.¹⁴²

V. Financial Support for Guinea Pigs:

¹⁴⁰ Henry Standen, “The Guinea Pig Pub,” *Guinea Pig* (August 1949): 34; Henry Standen, “Guinea Pig Pubbery,” *Guinea Pig* (August 1957): 30-1, esp. 30.

¹⁴¹ Bob Marchant, email message to author, January 22, 2020.

¹⁴² McLeave, 131.

Support went far beyond the occasional follow-up procedure, drunken weekends and Marks and Spencer sponsorship. The front page of *Guinea Pig* lists a consultant plastic surgeon designated for the members if they had need of further reconstructive maintenance as they aged and their implants or grafts sometimes degraded.¹⁴³ There was also an R.A.F. welfare officer appointed to oversee pensions for handicapped Guinea Pigs as new problems with things such as mobility arose through the years. This funding through the R.A.F. Benevolent Fund is unconventional, as men invalided out of the service were generally sent to non-military branches of the government for monetary assistance, such as the NHS and other social welfare programs.¹⁴⁴ This was another facet of McIndoe's philosophy that may have given his patients psychological relief: they were not invalided out of the R.A.F. per the usual qualification of ninety days missed due to injury. Dr. McIndoe insisted that the old policy was not realistic for reconstructive surgery, which required a greater length of time for convalescence but often resulted in a functional flyer, a valuable commodity during WWII considering the training hours invested in airmen and the high stakes of the conflict.¹⁴⁵

The R.A.F. Benevolent Fund had been established in 1919 to provide support for flyers who were unable to support themselves due to disabilities from their time in the service.¹⁴⁶ The fund was sustained by donations from private citizens, and it is common for celebrities and veterans to appeal to British generosity. In the Christmas 1956 issue of *Guinea Pig*, there is a reprint of a Battle of Britain Sunday radio broadcast given by an anonymous Hurricane pilot who had been shot down and badly burned. This broadcast was successful, as the funds raised

¹⁴³ Marchant, email, January 22, 2020.

¹⁴⁴ Mayhew, 176.

¹⁴⁵ McLeave, *McIndoe*, 132.

¹⁴⁶ "Our History," R.A.F. Benevolent Fund, accessed January 4, 2020.

amounted to over ten thousand pounds according to the article. One excerpt in particular highlights the hope the R.A.F. Benevolent Fund offers. The pilot states “It is the link across those fifteen years — from a Hurricane cockpit to a classroom — that I want to talk about tonight. That link — it was more of a lifeline — brought me through a period of my life that I could not have faced alone. For I am one of the many thousands who have been helped back to worthwhile life by the Fund.”¹⁴⁷ The pilot does not mention the Guinea Pig Club in his address, but he does note that the Benevolent Fund prohibits those who receive its assistance from publicly identifying themselves. It is highly probable, though not certain, that this man was a member of the club and had been treated by Sir Archibald. This was not the first public linkage between the Guinea Pig Club and the R.A.F. Fund. Dr. McIndoe involved himself in gaining assistance through the Fund for his patients.

In the early 1940s McIndoe and the physical therapist on Ward Three, J. Edward “Blackie” Blacksell, appealed to the Fund to establish a working relationship between Guinea Pigs and the resources it offered. This relationship is clear in a 1946 address in *Guinea Pig* that Blackie published, titled “Saving our Bacon: Blackie Tells What Happens to Cured Pig.”¹⁴⁸ Before diving into a set of specific potential ways in which the club was able to assist members, Blackie summarizes the attitude from which this aid flowed. He writes, “As the war progressed and the Club grew, the social aspect of the club remained, but with it was now appended the function that was to become known as Rehabilitation, and later as Resettlement.”¹⁴⁹ The body of

¹⁴⁷ Henry Standen, “R.A.F. Benevolent Fund,” *Guinea Pig* (Christmas 1956): 14-5, esp. 14.

¹⁴⁸ J.E. Blacksell, “Saving Our Bacon: Blackie Tells what Happens to Cured Pig,” *Guinea Pig* (July 1946): 6-7, esp. 6.

¹⁴⁹ *Ibid.*

his letter includes the notions that Guinea Pigs needed only ask the Club administration for access to things such as housing and transportation, which would then be provided through the R.A.F. Benevolent Fund, the Red Cross, and Government Grants.

VI. Conclusion:

The Guinea Pigs maintained ties, and the survivors held a final celebration for the club's seventy-fifth anniversary in 2016. Charles, Prince of Wales, and Club President since McIndoe's death in 1960, oversaw the proceedings and unveiled a commemorative monument.¹⁵⁰ At this reunion there were seventeen living Guinea Pigs, a steep decline from the 121 members in 2005.¹⁵¹ Over the years, many Guinea Pigs who lived in proximity with each other had met regularly for drinks. Ray Brooke was friends with Bill Foxley. Brooke was off duty with colleagues in Lancashire when a storm blew in on 23 August 1944. He and two friends had taken shelter in a cafe when an American B-24 Liberator bomber lost control in the foul weather and crashed into the town. Brooke's face, hands, and leg were badly burned and he was sent to East Grinstead as the rest of the country was celebrating the liberation of Paris. Brooke and Foxley first met in 1942 when both were staying at East Grinstead, so Brooke was not a founding member but his five and a half years in and out of the hospital and forty to fifty operations more than qualified him as a member of the Club. In a 2006 interview, Brooke said: "The Guinea Pig

¹⁵⁰ "Sandy Saunders," *BBC*.

¹⁵¹ "Rebuilding Bodies and Souls," East Grinstead Museum, accessed May 8, 2019; Macnamara and Metcalfe, 227.

Club and the comradeship of the lads has kept us all going. I still meet Bill and several other Pigs every week for a pint.”¹⁵²

The accounts provided of how several members of the Guinea Pig Club were injured, the treatments they received, and their lives after wartime demonstrate the medical practices that were employed by the prodigious Sir Archibald McIndoe and his team at East Grinstead. The stories of Guinea Pigs also demonstrate the social ties these men created in order to lead successful, productive lives for many decades after the war. Changing technology in warfare meant burns were much more common and treatable in World War II, and Dr. McIndoe was forced to determine the best ways of managing these wounds. By demonstrating the harmful effects of tannic acid on burned tissues and proving the healing properties of saline baths, McIndoe prevented untold numbers of lost digits and fatalities to necrosis and sepsis in burn patients. The staff on Ward Three at East Grinstead facilitated an environment that allowed psychological healing as well, and by allowing patients the opportunity to misbehave and remember their youth McIndoe and the nurses gave the Guinea Pigs a platform from which to resume life.

¹⁵² Lucinda Marland, “The Guinea Pig Club: Ray Brooke,” *Guardian*, November 10, 2016, accessed May 7, 2019.

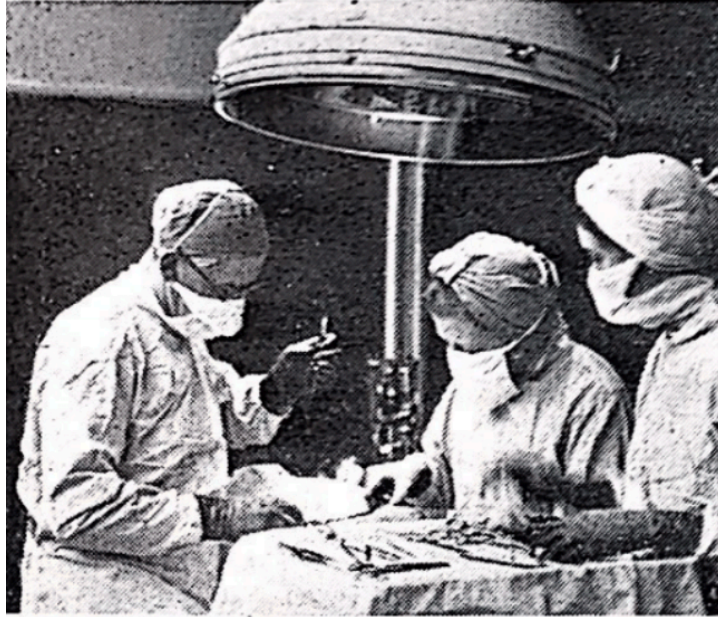
Selected Images



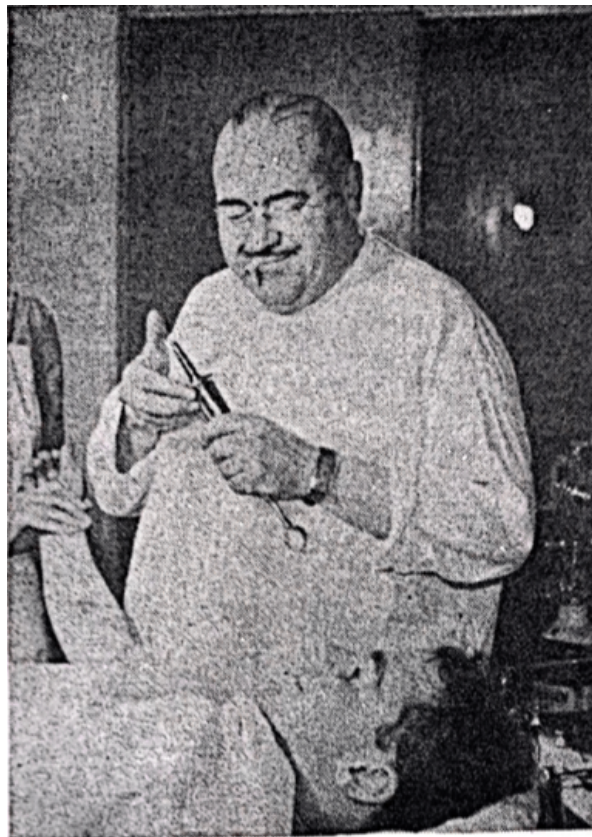
Sir Archibald accompanies the Guinea Pigs in singing the club's anthem on Ward 3. *Guinea Pig* (Christmas 1948): 19.



The Guinea Pig Club cricket team celebrates a victory ca. 1947. *Guinea Pig* (December 1947): 15.



Dr. McIndoe, Jill Mullins and a second nurse operating. *Guinea Pig* (December 1947): 29.



Dr. John Hunter with a patient. *Guinea Pig* (1946): 16.

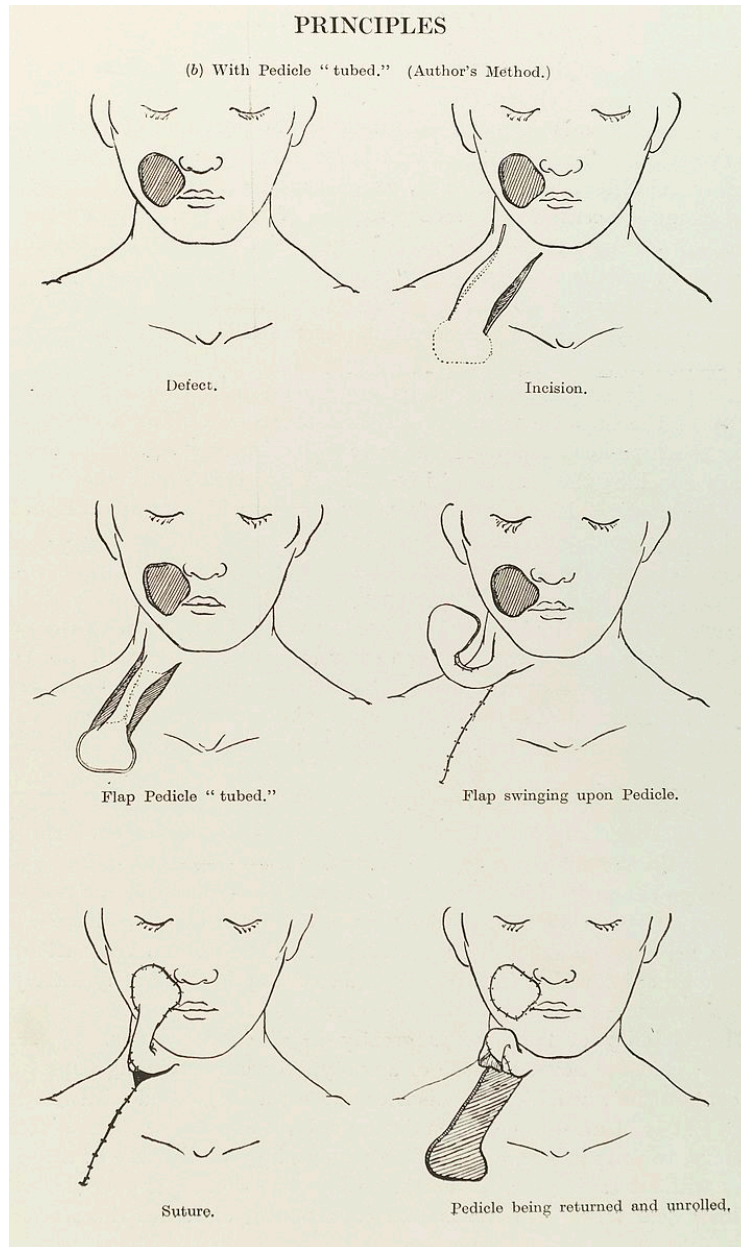


Diagram illustrating Harold Gillies' method of tubed pedicling. Gillies and Millard, *Plastic Surgery of the Face* (London, Oxford University Press, 1920).

Bibliography of Works Consulted

Primary References:

Blacksell, J.E. "Saving Our Bacon: Blackie Tells what Happens to Cured Pig," *Guinea Pig* (July 1946): 6-7.

Bunton, G.L. *Fluid Balance Without Tears, or The Child's Guide to Electrolytes*. London, UK: Lloyd Luke, 1970.

Clark, A.M., Leonard Colebrook, Thomas Gibson, M.L. Thomson, and A. Foster. "Penicillin And Propamidine In Burns Elimination Of Hæmolytic Streptococci And Staphylococci." *Lancet* 241, no. 6246 (May 15, 1943): 605-9.

Edmonds, Godfrey. "Doctor John Hunter." *Guinea Pig* (December 1953): 30.

"Farewell...Sister Meally." *Guinea Pig* (Christmas 1947): 12-3.

Gallop, Sam. "Guinea Pig Gaudy." *Guinea Pig* (Summer 1960): 5-12.

Gillies, John. "Anaesthetic Factors in the Causation and Prevention of Excessive Bleeding During Surgical Operations." Joseph Clover Lecture delivered at the Royal College of Surgeons, March 29, 1950. Accessed March 13, 2020. <http://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC2238391&blobtype=pdf>

Gillies, Harold and D. Ralph Millard, Jr.. *The Principles and Art of Plastic Surgery*. Boston: Little, Brown and Company, 1957.

Gleave, Tom. "Doctor John Hunter." *Guinea Pig* (December 1953): 30.

Gleave, Tom. Review of *Richard Hillary*, written by Lovat Dickson. *Guinea Pig* (Christmas 1950): 55-6.

Haeseker, Barend and Richard Koch. "Dr Carel Frierich Koch (1890-1984)." *Br J Plastic Surgery* 38, no. 4 (October 1985): 589–90.

Hart, Paul. "With Paul Hart on Safari." *Guinea Pig* (August 1955): 8-11.

Hillary, Richard. *The Last Enemy*. New York, NY: St. Martin's Press, 1983.

"Honour for Matron Hall." *Guinea Pig* (August 1949): 8.

Hunter, John. "Anesthesia and Guinea Piggery." *Guinea Pig* (December 1947): 37-8.

"John Truscott Hunter." *Lancet* 262, no. 6781 (August 1953): 350.

Marchant, Bob interview by author, East Grinstead Museum, November 18, 2019.

McIndoe, A. H. "East African Safari." *Guinea Pig* (August 1950): 3-6.

McIndoe, A. H. "The Guinea Pig and Empire." *Guinea Pig* (December 1947): 3-4.

McIndoe, A. H. "In Memoriam." *Guinea Pig* (Summer 1960): 45-6.

McIndoe, A. H. "Skin Grafting and the Treatment of Wounds." *Proceedings of the Royal Society of Medicine* 647, no. 36 (June 1943): 29-38.

McIndoe, A. H. "Total Reconstruction of the Burned Face. The Bradshaw Lecture 1958." *Br J of Plastic Surgery* 36, no. 4 (1983): 410–20.

McIndoe, A.H. "The Tenth Year." *Guinea Pig* (December 1948): 18-19.

McIndoe, A. H. "Valiant For Truth." *Guinea Pig* (April 1951): 4-6.

McLaughlin, C. R. "Present-Day Trends in Reconstructive Surgery." *Guinea Pig* (July 1947): 18-9.

Minnitt, Robert John, John Gillies, and Lucien Benedict Wevill. *Textbook of Anaesthetics ... With a section on regional analgesia by L.B. Wevill, etc.* Edinburgh: E. & S. Livingstone, 1948.

“Obituary.” *Anæsthesia* 8, no. 4 (1953): 292.

Page, Geoffrey. *Shot Down in Flames: A World War II Fighter Pilot's Remarkable Tale of Survival*. London: Grub Street, 1999.

“Salute to the Maestro.” *Guinea Pig* (1946): 2.

Standen, Henry. “Canada’s Guinea Pigs Organise Welcome for The Maestro.” *Guinea Pig* (April 1949): 4-5.

Standen, Henry. “The Guinea Pig Club.” *Guinea Pig*, (August 1948): 10.

Standen, Henry. “The Guinea Pig Pub,” *Guinea Pig* (August 1949): 34.

Standen, Henry. “Guinea Pig Pubbery.” *Guinea Pig* (August 1957): 30-1.

Standen, Henry. “R.A.F. Benevolent Fund.” *Guinea Pig* (Christmas 1956): 14-5.

“Stop Press.” *Guinea Pig* (July 1947): 23.

“Words and Music.” *Guinea Pig* (1946): 7.

Secondary Sources:

“Alan Morgan.” East Grinstead Museum. Last modified November 23, 2016. Accessed May 8, 2019.

“Alexander Court Shankland.” *Stamford Mercury*. September 13, 2008.

“Arthur Courtney Saunders.” East Grinstead Museum. Last modified November 23, 2016. Accessed May 8, 2019.

“The Arrival of McIndoe.” East Grinstead Museum. Accessed January 21, 2020.

Ashwood, Neil and Matthew Philpott. "The life and career of a great surgeon: Sir Archibald McIndoe CBE, MD, MSc, FRCS, FRCSI (Hon), FACS (Hon)1900–1960." *Trauma* 13, no. 3 (2010): 251-6.

Biernoff, Suzannah. *Portraits of Violence: War and the Aesthetics of Disfigurement*. Ann Arbor: University of Michigan Press, 2017.

"Bill Foxley." *Telegraph*, December 15, 2010.

Brain, Jessica. "The Birth of the NHS." Historic UK. Accessed January 19, 2020.

"Dennis Neale." *Oxford Mail*, November 28, 2007.

"Derek Martin." East Grinstead Museum. Last modified November 23, 2016. Accessed May 8, 2019.

"George Dennis Ivor Neale." East Grinstead Museum. Last modified November 23, 2016. Accessed May 8, 2019.

"The Guinea Pig Club Memorial." QR Memories. Accessed May 8, 2019. <https://www.qr-memories.com/theguineapigclub>

Macnamara, Alexandra F. and Neil H. Metcalfe. "Sir Archibald Hector McIndoe (1900–1960) and the Guinea Pig Club: The Development of Reconstructive Surgery and Rehabilitation in the Second World War (1939–1945)." *Medical Biography* 22, no. 4 (2013): 224-8. Accessed February 28, 2019.

Marland, Lucinda. "The Guinea Pig Club: Alan Morgan." *Guardian*, November 10, 2006. Accessed February 28, 2019.

Marland, Lucinda. "The Guinea Pig Club: Alex Shankland." *Guardian*, November 10, 2006. Accessed February 28, 2019.

- Marland, Lucinda. "The Guinea Pig Club: Bill Foxley." *Guardian*, November 10, 2006.
Accessed February 28, 2019.
- Marland, Lucinda. "The Guinea Pig Club: Dennis 'Eyes Higher' Neale." *Guardian*, November 10, 2006. Accessed February 28, 2019.
- Marland, Lucinda. "The Guinea Pig Club: Derek Martin." *Guardian*, November 10, 2006.
Accessed February 28, 2019.
- Marland, Lucinda. "The Guinea Pig Club: Paul Hart." *Guardian*, November 10, 2006. Accessed February 28, 2019.
- Marland, Lucinda. "The Guinea Pig Club: Ray Brooke." *Guardian*, November 10, 2006.
Accessed February 28, 2019.
- Marland, Lucinda. "The Guinea Pig Club: Sandy Saunders." *Guardian*, November 10, 2006.
Accessed February 28, 2019.
- Mayhew, Emily R. *The Guinea Pig Club: Archibald McIndoe and the RAF in World War II*. Toronto: Dundurn, 2018.
- McLeave, Hugh. *McIndoe: Plastic Surgeon*. London: The Trinity Press, 1961.
- Meikle, M.C. "The Evolution of Plastic and Maxillofacial Surgery in the Twentieth Century: The Dunedin Connection." *Surgeon* 4, no. 5 (2006): 325-334.
- Mosley, Leonard. *Faces from the Fire: The Biography of Sir Archibald McIndoe*. London: Weidenfeld and Nicolson, 1962.
- Mowbrey, Kevin. "Albert Ross Tilley: The Legacy of a Canadian Plastic Surgeon." *Can J Plastic Surgery* 21, no. 2 (2013): 102-6.

“Paul Rounds Hart.” East Grinstead Museum. Last modified November 23, 2016. Accessed May 8, 2019.

“Rebuilding Bodies and Souls.” East Grinstead Museum. Accessed May 8, 2019.

Royal Air Force. “Our History.” R.A.F. Benevolent Fund. Accessed January 4, 2020. <https://www.rafbf.org/about-us/our-organisation/our-history>

“Sandy Saunders: WW2 'Guinea Pig' Pilot Dies from Cancer.” BBC News. Last modified February 28, 2017. Accessed May 7, 2019. <https://www.bbc.com/news/uk-england-leicestershire-39113871>

Sugarman, Daniel. “Jack Toper, RAF Veteran and Member of the Guinea Pig Club, Dies at 97.” The Jewish Chronicle. Last modified April 3, 2019. Accessed February 11, 2020.

Vat, Dan van der. “Geoffrey Page: Fighter Ace who Received Pioneering Plastic Surgery.” *Guardian*. Last modified August 28, 2000. Accessed May 8, 2019.

Webster, Ian. “Inflation Rate between 1930-2016: Inflation Calculator.” Alioth Finance. Accessed January 8, 2020.

“Wing Commander Derek Martin — Obituary.” *Telegraph*. Last modified May 13, 2014. Accessed May 7, 2019.

Wildsmith, Tony. “Dr John Truscott Hunter.” Royal College of Anesthetists UK. accessed February 28, 2020

“William James Foxley.” East Grinstead Museum. Last modified November 23, 2016. Accessed May 8, 2019.

